

No. 777,790.

PATENTED DEC. 20, 1904.

W. H. JESSUP.
HOISTING APPARATUS.
APPLICATION FILED MAR. 7, 1904.

NO MODEL.

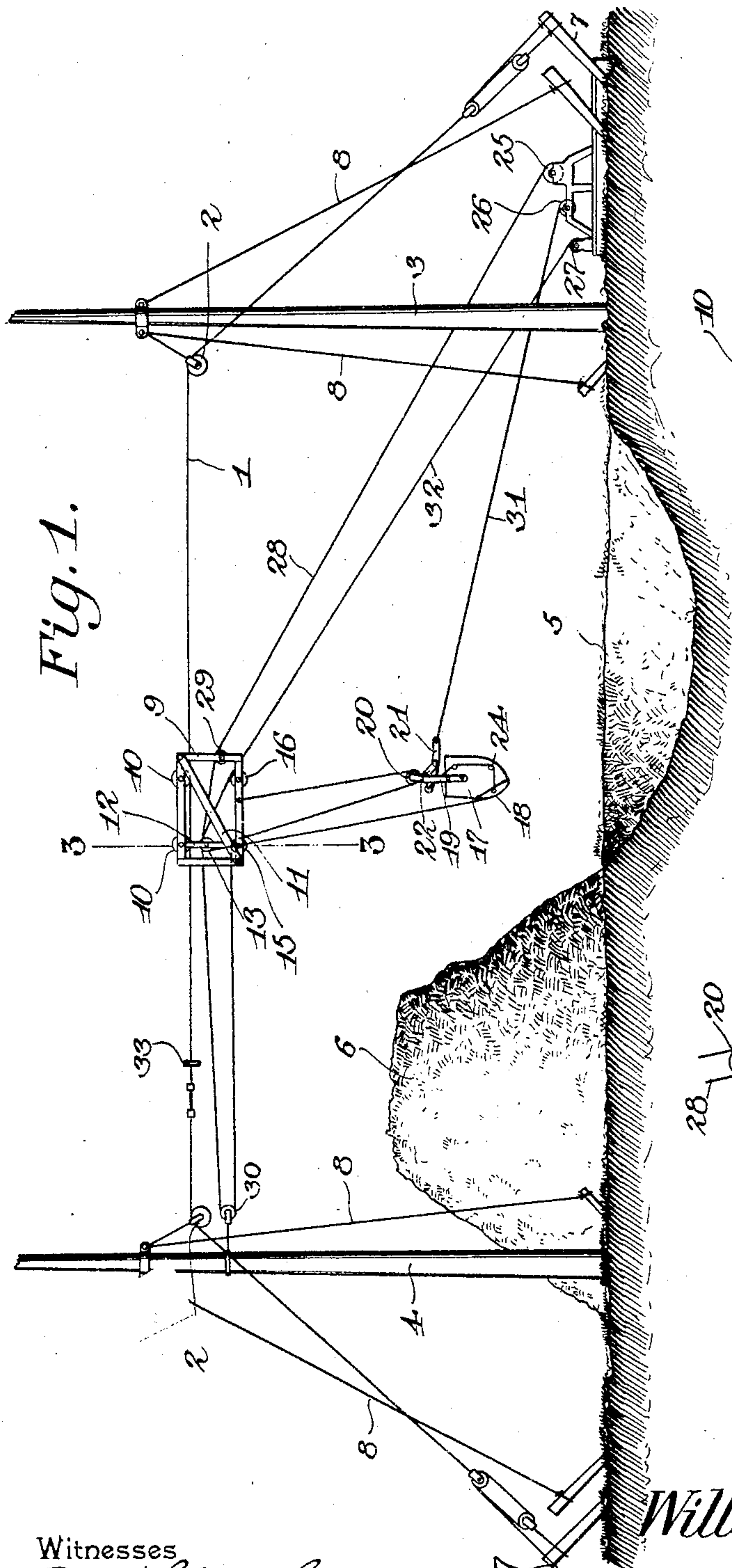


Fig. 1.

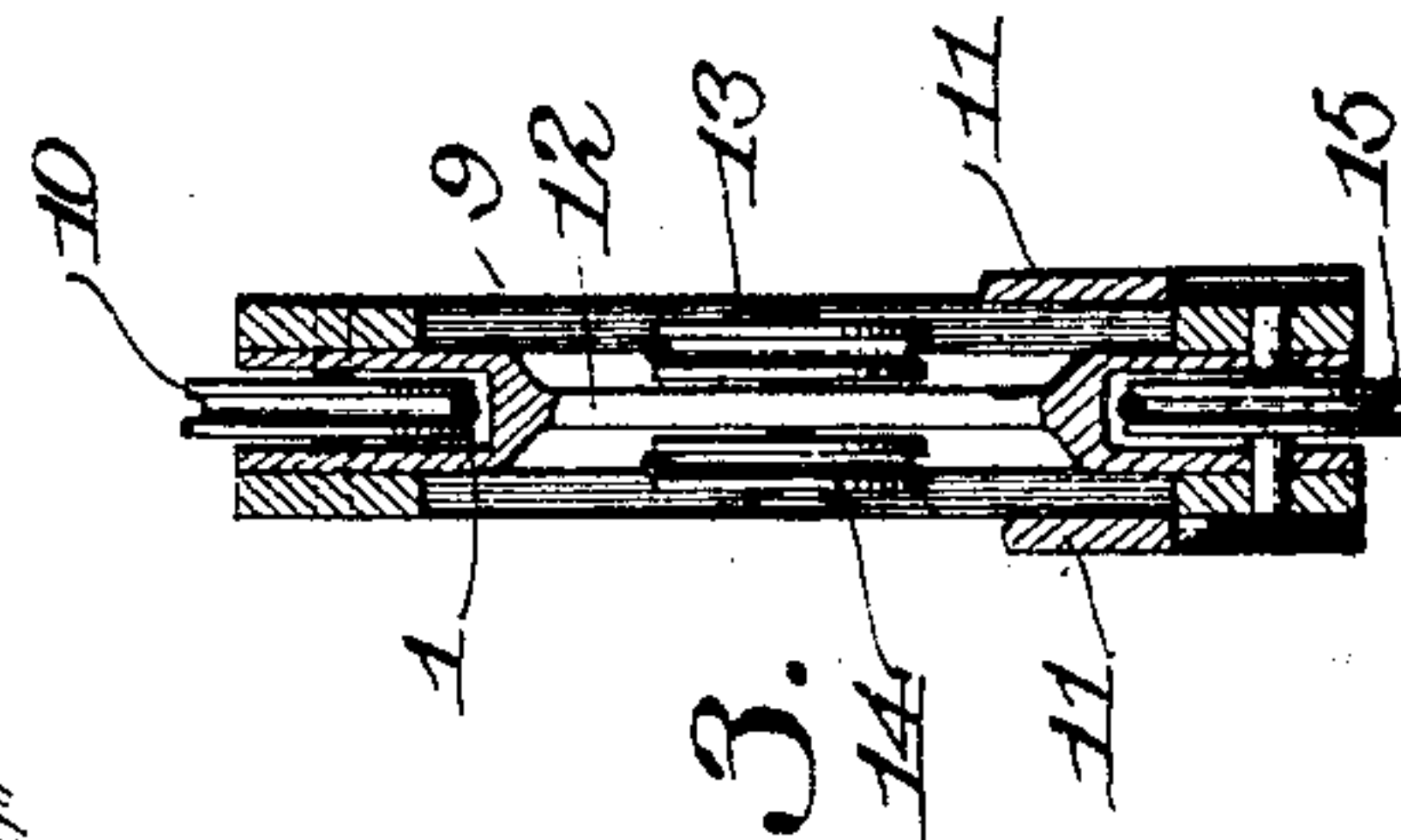


Fig. 3.

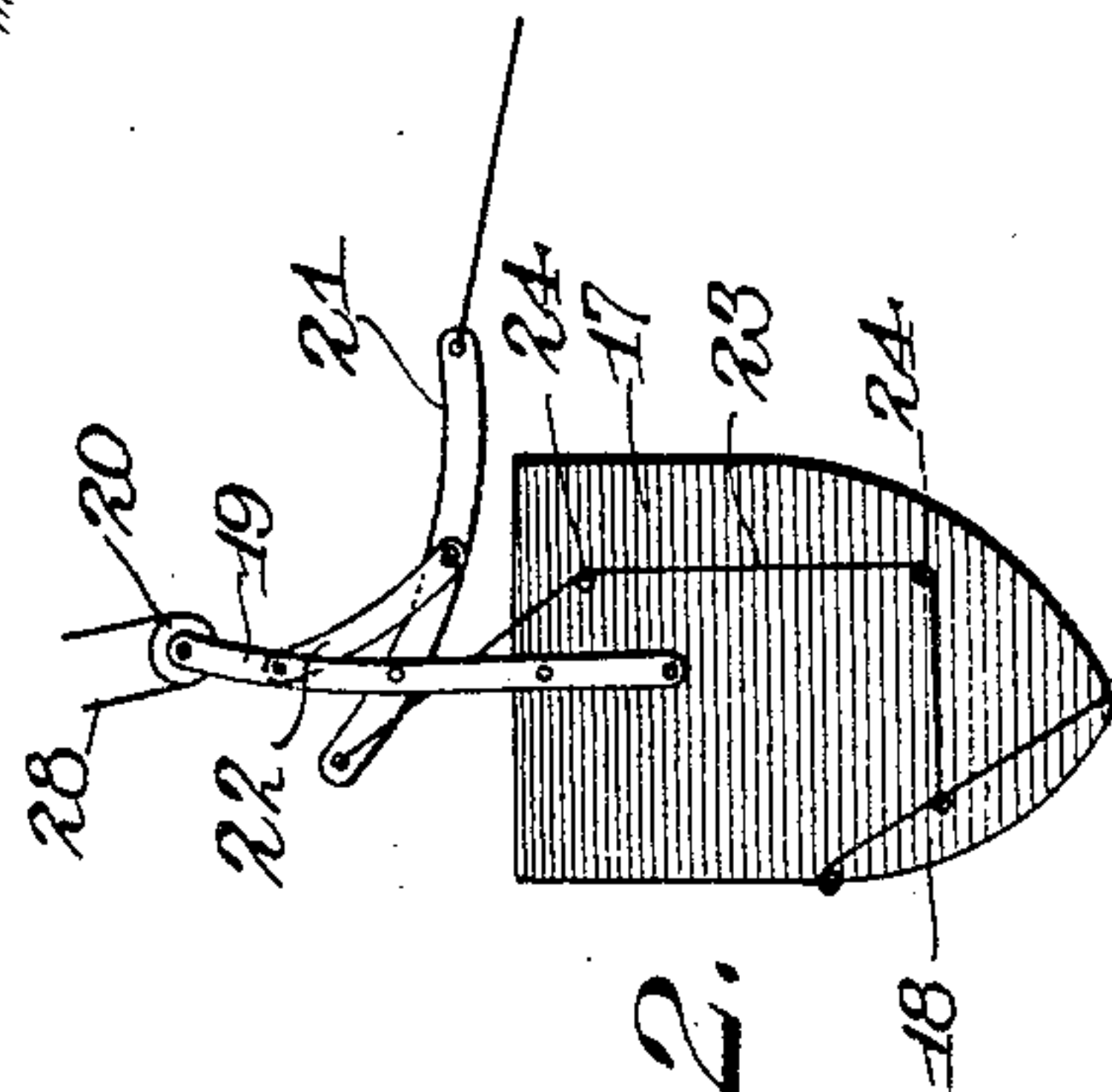


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. JESSUP, OF SHERIDAN, INDIANA.

HOISTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 777,790, dated December 20, 1904.

Application filed March 7, 1904. Serial No. 197,028.

To all whom it may concern:

Be it known that I, WILLIAM H. JESSUP, a citizen of the United States, residing at Sheridan, in the county of Hamilton and State of Indiana, have invented a new and useful Hoisting Apparatus, of which the following is a specification.

This invention relates to hoisting and excavating apparatus such as is utilized for excavating dirt, gravel, and the like and for dumping or depositing the same either upon a dump-pile or upon wagons or cars.

The invention has for its object to provide a device of this class which shall possess superior advantages in point of simplicity, ease of operation, and general efficiency; and with these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a diagrammatic view of my improved hoisting and excavating apparatus. Fig. 2 is a detail view, enlarged, of the bucket used in connection with the same. Fig. 3 is a sectional detail view taken on line 3 3 in Fig. 1.

Corresponding parts in the several figures are indicated by similar numerals of reference.

The track rope or cable 1 of my invention is supported by means of pulleys 2 2, suspended from a pair of masts 3 4, between which is the excavation 5 and the dump-pile 6, the ends of said track-rope being suitably made fast to stakes 7. Guy-ropes 8 8 have been shown for the purpose of staying the masts.

The track 1 supports a carriage 9, the frame of which is provided with wheels 10 10, traveling upon the track. The frame of the carriage is also provided with a diagonal brace 11 and with a vertical brace 12, on opposite sides of which are journaled a pair of pulleys 13 and 14. The lower part of the carriage supports a pair of guide-pulleys 15 and 16.

The bucket 17 is an ordinary dredging-bucket, having an open top and provided with a hinged door 18, covering an obliquely-disposed opening in the side of the bucket. The

latter is suspended by means of a bail 19, having a pulley 20.

21 is a lever, which is connected with the bail 19 by means of a link 22. The inner end of said lever is connected with the door 18 by means of a flexible element 23, passing over a pair of guide-pulleys 24 upon the side of the bucket.

25, 26, and 27 are winding-drums, which may be operated by any suitable power.

28 designates a flexible hoisting element, one end of which is connected with the drum 25, said hoisting element, which may be an ordinary wire cable, passing over a pulley 29 in the carriage, thence over the guide-pulley 14, over a guide-pulley 30, connected with the mast 4, thence back over the guide-pulley 15 of the carriage, and thence down under the pulley 20, connected with the bucket-bail, and finally upward to the frame of the carriage to which it is connected.

31 designates a draw-rope or pulling-rope, one end of which is made fast to the winding-drum 26 and the other end of which is connected with the free end of the lever 21.

32 designates an auxiliary rope, one end of which is made fast to the drum 27, from which said rope passes over the pulleys 16 and 13 of the carriage and thence downwardly to the bucket, with the door 18 of which it is connected.

33 designates a buffer mounted adjustably upon the track-cable 1 above the dump-pile. The winding-drums and the motive power for the same may be disposed adjacent to the mast 3, while the mast 4 is adjacent to the dump-pile.

In operation let it be supposed that the bucket has been lowered to the bottom of the excavation. The drum 26 is then rotated to wind the cable 31 thereon, the latter serving to drag the bucket up the inclined slope of the excavation, where it will become filled with the matter to be excavated. When the bucket has been filled, the drum 25 is rotated to wind a cable 28, thereby elevating the drum, the line 31 being meanwhile slowly paid out from the drum 26, if necessary. By continuing to wind the cable 28 the carriage will be caused

to travel in the direction of the dump, and when the desired dumping-point has been reached the line 31 is quickly paid out, thereby causing the weight of the contents of the bucket to fling open the door 18, thus causing the contents of the bucket to escape. The line 32 may be utilized when desired by winding it upon the drum 27, so as to operate against the tension of the line 31 to partly open the door 18 in order to enable the contents of said bucket to be drained. The buffer constitutes a stop for the carriage to determine the point at which the dumping of the contents of the bucket will take place. It is obvious that instead of depositing the contents upon the dump-pile the latter may be dispensed with, and a track will be suitably disposed underneath the track-cable to accommodate cars or vehicles into which the contents of the bucket may be discharged.

I desire it to be understood that while a preferred construction of my invention has been herein described I do not necessarily limit myself to structural details therein exhibited, but reserve the right to such changes and modifications as come fairly within the scope of my invention and which may be resorted to without departing from the spirit or sacrificing the utility of the same.

Having thus described my invention, I claim—

1. In a device of the class described, a track-rope, a carriage supported upon the same and having a plurality of guide-pulleys, a plurality of winding-drums, a bucket having a bail,

a hinged bottom and guide-pulleys upon the side of said bucket, a link connected with the bucket, a lever supported by said link, a flexible element connecting the inner end of said lever with the hinged bottom of the bucket, a flexible connection between the free end of the lever and one of the winding-drums, a suitably-guided hoisting-rope supporting the bucket by the pulley connected with the bail of the latter and having its ends connected respectively with the carriage and with a winding-drum, and a suitably-guided flexible element connecting the bottom of the bucket with a winding-drum.

2. In a device of the class described, a track-cable, a carriage having a plurality of guide-pulleys, a plurality of winding-drums, a suitably-guided hoisting-rope connecting the carriage with a winding-drum, a bucket having a pulley supported by said hoisting-rope, a door hingedly connected with said bucket, a lever having link connection with the bucket-bail, a flexible connection between the inner end of said lever and the bucket-door, a flexible connection between the free end of said lever and a winding-drum, and a suitably-guided flexible connection between the hinged bucket-door and a winding-drum.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WM. H. JESSUP.

Witnesses:

MARVIN JESSUP,
J. W. WILLIAMS.